

**EFFECT OF POLYPROPYLENE FIBER REINFORCEMENT ON THE
PROPERTIES OF FRESH AND HARDENED CONCRETE IN THE ARABIAN
GULF ENVIRONMENT.**

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Abstract: The effect of polypropylene fiber reinforcement on the workability, plastic shrinkage, drying shrinkage and strength of concrete has been studied in a detailed test program. Concrete specimens of different mix designs with and without polypropylene fibers have been prepared, cured in laboratory conditions and hot weather environment of the Arabian Gulf, and then tested at different ages for the determination of various properties. The results indicate that the inclusion of polypropylene fibers eliminates the plastic shrinkage cracking of concrete, and reduces the drying shrinkage to some extent. It also slightly improves the tensile and flexural strength of concrete.